Appendix B
Air Quality

B.1 INTRODUCTION

This appendix reproduces subject-specific excerpts from the BNL Site Environmental Report (SER) for calendar year 1997 for the following areas that relate specially to air quality:

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BNL 1997 SER SECTION 2.1 Environmental Permits

A variety of processes and facilities at BNL operate under regulatory permits. These permits include one SPDES permit, a Major Petroleum Facility (MPF) license, two Resource Conservation Recovery Act (RCRA) permits (one for the existing Hazardous Waste Management Facility [HWMF], one for the new Waste-Management Facility), a certificate from the NYSDEC registering tanks storing bulk quantities of hazardous substances, eight authorizations for National Emission Standards for Hazardous Air Pollutants (NESHAPs) and 62 Certificates to Operate (CO) air emission sources from NYSDEC. Fifteen applications are pending with NYSDEC either for renewing or canceling existing COs or obtaining COs for new air-emission sources. Table 2-1 gives information on the type and status of all environmental permits issued to the DOE through December 31, 1997 (BNL 1999:2-1).

BNL SER Table 2-1
BNL Site Environmental Report for Calendar Year 1997
BNL Environmental Permits

Bldg./Facility Designation	Process Description	Permitting Agency and Division	Permit Number	Expiration Date
134	blueprint machine	NYSDEC-Air Quality	472200 3491 13401	11/29/1997(5)
197	degreaser tank	NYSDEC-Air Quality	472200 3491 19702	2/1/1998(5)
197	acid metal cleaning	NYSDEC-Air Quality	472200 3491 19703	3/22/1996(5)
197	welding shop	NYSDEC-Air Quality	472200 3491 19704	4/1/2000
197	cleaning room hoods	NYSDEC-Air Quality	472200 3491 19706	1/7/1998(5)
197	cleaning room hoods	NYSDEC-Air Quality	472200 3491 19707	1/7/1998(5)
197	epoxy coating/ curing exhaust	NYSDEC-Air Quality	472200 3491 19708	6/8/1998(6)
206	cyclone G-10	NYSDEC-Air Quality	472200 3491 20601	4/1/2000
207	belt sander	NYSDEC-Air Quality	472200 3491 20701	4/1/2000
208	lead melting	NYSDEC-Air Quality	472200 3491 20801	11/29/1997(5)

BNL Environmental Permits (Continued)

208	vapor degreaser	NYSDEC-Air Quality	472200 3491 20802	11/29/1996(5)
208	sandblasting	NYSDEC-Air Quality	472200 3491 20803	11/29/1996(5)
208	sandblasting	NYSDEC-Air Quality	472200 3491 20804	11/29/1996(5)
244	cyclone collector	NYSDEC-Air Quality	472200 3491 24401	1/28/1999(6)
422	cyclone collector	NYSDEC-Air Quality	472200 3491 42202	11/29/1996(3)
422	cyclone collector	NYSDEC-Air Quality	472200 3491 42203	11/29/1996(3)
423	stage II vapor recovery	NYSDEC-Air Quality	472200 D365 WG	9/27/1995(1)
423	welding hood	NYSDEC-Air Quality	472200 3491 42305	5/15/2001
444	incinerator	NYSDEC-Air Quality	472200 3491 44401	5/15/2001(5)
458	paint spray booth	NYSDEC-Air Quality	472200 3491 45801	4/23/1997(6)
462	machining grinding exhaust	NYSDEC-Air Quality	472200 3491 46201	11/29/1996(3)
462	machining grinding exhaust	NYSDEC-Air Quality	472200 3491 46202	11/29/1996(3)
473	vapor degreaser	NYSDEC-Air Quality	472200 3491 47301	3/22/1996(4)
479	cyclone G-10	NYSDEC-Air Quality	472200 3491 47905	4/1/2000
490	Inhalation Toxicology Facility	NYSDEC-Air Quality	472200 3491 49001	5/15/2001
490	Inhalation Toxicology Facility	NYSDEC-Air Quality	472200 3491 49002	5/15/2001(2)
490	lead alloy melting	NYSDEC-Air Quality	472200 3491 49003	5/15/2001
490	milling machine/ block cutter	NYSDEC-Air Quality	472200 3491 49004	5/15/2001
510	metal cutting exhaust	NYSDEC-Air Quality	472200 3491 51002	9/30/1998(6)
510	calorimeter enclosure	U.S. EPA -NESHAPS	BNL-689-01	None
526	polymer mix booth	NYSDEC-Air Quality	472200 3491 52601	4/1/2000
535B	plating tank	NYSDEC-Air Quality	472200 3491 53501	4/1/2000
535B	etching machine	NYSDEC-Air Quality	472200 3491 53502	4/1/2000
535B	PC board process	NYSDEC-Air Quality	472200 3491 53503	5/15/2001
535B	welding hood	NYSDEC-Air Quality	472200 3491 53504	9/30/1998(6)
555	scrubber (1)	NYSDEC-Air Quality	472200 3491 55501	4/1/2000
555	scrubber (2)	NYSDEC-Air Quality	472200 3491 55502	4/1/2000
610	combustion unit	NYSDEC-Air Quality	472200 3491 6101A	5/15/2001
610	combustion unit - ALF	NYSDEC-Air Quality	472200 3491 61005	5/15/2001
610	combustion unit	NYSDEC-Air Quality	472200 3491 61006	5/15/2001
610	combustion unit	NYSDEC-Air Quality	472200 3491 61007	12/18/2002
630	stage II vapor recovery	NYSDEC-Air Quality	472200 D366 WG	9/27/95(1)
650	scrap lead recycling	NYSDEC-Air Quality	472200 3491 65001	11/29/1996(5)
650	shot blasting	NYSDEC-Air Quality	472200 3491 65002	11/29/1996(5)
703	machining exhaust	NYSDEC-Air Quality	472200 3491 70301	5/15/2001
705	building ventilation	U.S. EPA –NESHAPS	BNL-288-01	None
820	accelerator test facility	U.S. EPA –NESHAPS	BNL-589-01	None
865	lead melting pot	NYSDEC-Air Quality	472200 3491 86501	Status pending

BNL Environmental Permits (Continued)

901	tin lead solder	NYSDEC-Air Quality	472200 3491 90101	4/1/2000(5)
902	spray booth exhaust	NYSDEC-Air Quality	472200 3491 90201	9/30/1998(6)
902	belt sander	NYSDEC-Air Quality	472200 3491 90202	5/15/2001
902	sanding, cutting, drilling	NYSDEC-Air Quality	472200 3491 90203	5/15/2001
902	brazing/solder exhaust	NYSDEC-Air Quality	472200 3491 90204	5/15/2001
902	painting/soldering exhaust	NYSDEC-Air Quality	472200 3491 90205	5/15/2001
903	blueprint machine	NYSDEC-Air Quality	472200 3491 90301	11/29/96(5)
903	cyclone G-10	NYSDEC-Air Quality	472200 3491 90302	4/1/2000
903	brazing process exhaust	NYSDEC-Air Quality	472200 3491 90303	9/30/1998(6)
905	vapor degreaser	NYSDEC-Air Quality	472200 3491 90501	3/22/1996(5)
905	belt sander	NYSDEC-Air Quality	472200 3491 90502	6/18/95(5)
905	machining exhaust	NYSDEC-Air Quality	472200 3491 90503	5/15/2001
919A	solder exhaust	NYSDEC-Air Quality	472200 3491 91903	5/15/2001
922	cyclone exhaust	NYSDEC-Air Quality	472200 3491 92201	4/1/2000
923	electronic equip. cleaning	NYSDEC-Air Quality	Submitted 3-93	status pending
924	spray booth exhaust	NYSDEC-Air Quality	472200 3491 92401	9/30/1998(6)
924	magnet coil production press	NYSDEC-Air Quality	472200 3491 92402	5/15/2001
924	machine exhaust	NYSDEC-Air Quality	472200 3491 92403	5/3/1998(6)
930	electroplating/ acid etching	NYSDEC-Air Quality	472200 3491 93001	5/15/2001
930	bead blaster	NYSDEC-Air Quality	472200 3491 93002	5/15/2001
930	ultrasonic cleaner	NYSDEC-Air Quality	472200 3491 93003	2/01/1997(5)
	spray aeration project	NYSDEC-Air Quality	Submitted 10-89	status pending
AGS Booster	accelerator	U.S. EPA –NESHAPS	BNL-188-01	None
RHIC	accelerator	U.S. EPA –NESHAPS	BNL-389-01	None
	radiation therapy facility	U.S. EPA –NESHAPS	BNL-489-01	None
	radiation effects/ neutral beam	U.S. EPA –NESHAPS	BNL-789-01	None
CSF(a)	major petroleum facility	NYSDEC-Water Quality	1-1700 NY-0005835	3/31/2002
STP(b) & RCB(c)	sewage plant & recharge basins	NYSDEC-Water Quality		3/1/2000
HWMF(d)	waste management	NYSDEC-Hazardous Waste	NYS ID No. 1-4772-00032/00021-0	8/31/1998
WMF(e)	waste management	NYSDEC-Hazardous Waste	1-4722-00032/00102-0	7/12/2005
BNL Site	chem tanks-HSBSRC	NYSDEC	1-000263	7/27/1999

(a) Central Steam Facility
(b) Sewage Treatment Plant
(c) Recharge basins
(d) Hazardous Waste Management Facility
(e) New Waste Management Facility
HSBSRC = Hazardous Substance Bulk Storage Registration Certificate
*__Note:__ Renewal application submitted more than 30 days prior to expiration date; process can continue to operate under provisions of the NYS Uniform Procedures Act.

(1) Renewal submitted 9-6-95, NYSDEC indicates source subject to registration only.
(2) Process not in service.
(3) Source with past due expiration dates are being evaluated by NYSDEC as possible exempt and trivial sources which would not need to be renewed pursuant to Part 201 provisions.
(4) Source currently out of service. If returned to service, an aqueous cleaning solution will be used in place of Freon 113 and methylene chloride to clean vacuum components.
(5) Source which has been removed or permanently decommissioned. A request will be submitted to the NYSDEC to have the source removed from the Air Facility System database.
(6) Permit was renewed indefinitely on June 7, 1996, when revisions to the 6 NYCRR Part 201 – Permits and Registrations became effective.
Source: BNL 1999: 2-2 – 2-3.

BNL 1997 SER SECTION 2.4 Clean Air Act

2.4.1 Conventional Air Pollutants

During 1997, a variety of BNL emission sources were evaluated with respect to NYS and Federal permitting requirements. The applicable regulations for these sources are Title 6, Chapter III, Parts 200 to 257 of the Codes, Rules and Regulations of the State of New York and the Federal Clean Air Act (CAA). The sources reviewed and their current permit statuses are summarized below.

No. of Actions	Status/Comments
1	In February 1997, an equivalency application was submitted to the NYSDEC Bureau of Eastern Remedial Action in Albany for an air stripper designed to remove volatile organic compounds from contaminated groundwater in Operable Unit III. BNL received confirmation that the application was approved in June 1997.
1	In March 1997, following the receipt of acceptable stack test results for particulate emissions, an application for a certificate to operate Boiler 7 was submitted to the NYSDEC. Copies of the emissions-test report for particulates completed in December 1996 and revised calculations accompanied the application, which supported the Laboratory's position that the requirements for preventing significant deterioration were not applicable. The NYSDEC subsequently issued a permit in December 1997 to operate the boiler.
1	In July 1997, an equivalency application was submitted to the NYSDEC Bureau of Eastern Remedial Action in Albany for the air-sparge and soil vapor-extraction system that removes volatile organic compounds from contaminated soil in Operable Unit IV. The application was approved in October 1997.
1	In July 1997, the Laboratory informed the USEPA and the NYSDEC that an extension of a LILCO natural-gas main into the CSF was completed, and that Boilers 5, 6 and 7 were being equipped with dual-firing capabilities that would burn either natural gas or oil. Since the changes made to the boilers to accommodate the combustion of natural gas did not increase emissions regulated under 40 CFR Subpart Db and 6 NYCRR Part 227-2, modifications to the permits issued for each boiler were not required.

1	In November 1997, a permit to construct and a certificate to operate application was submitted to the NYSDEC regional office for a lead-melting pot to process old lead shielding in Building 865 of the new Waste Management Facility. The Laboratory submitted its Title V Phase I application to the NYSDEC in December 1997. The application summarized the regulatory requirements applicable to BNL's emission sources, described laboratory operations and activities which are subject to Federal and State regulatory requirements, and summarized the pollutants released by BNL's sources. The application also included a compliance plan that addressed three noncompliance situations that were identified during its preparation and a statement certifying that BNL will continue to comply with all other applicable requirements.

Source: BNL 1999: 2-14.

BNL 1997 SER SECTION 2.18.2 EPA Multimedia Audit

EPA Region II Office in May 1997 announced that they would begin a compliance audit of BNL. They looked at air emissions, water discharges, underground storage-tanks, hazardous-waste storage, handling and disposal of chemical wastes, spill prevention, toxic-substances management, radiation controls, emergency planning, underground injection-wells, toxic-release inventory, and community's right-to-know requirements.

After this audit, EPA issued the following violations: two for the underground injection control program; four of the CAA; four of the TSCA PCB; and five of RCRA. However, the report also emphasized that none of them posed an immediate threat to workers, the environment, nor the public health.

Because DOE and BNL had worked closely with EPA during the audit, many of the issues have been corrected, or plans are in place to resolve them. The EPA also reiterated what DOE found in its earlier ES&H review, that the Laboratory's management systems need to be strengthened.

BNL began the second phase of this multimedia review by minimizing the amount of waste produced and reducing emissions. The third phase, a review of environmental management issues at the Laboratory is expected to begin next year. These efforts, combined with the MSIP now being undertaken by the Laboratory's top administration and the DOE's 30-Day Action Plan, will improve environmental management at BNL (BNL 1999:2-39).